II. REMARKS

Currently-pending claims 22-46 have each been substantially amended .

Specifically, independent claims 22, 28, 34, and 40 have each *inter alia* been amended to more particularly recite details of the "piston phasing means" of the present invention, which is employed on the cylinder members of the positive displacement valve, on the hydraulic cylinders, and on both of the foregoing in combination.

In this regard, the "piston phasing means" has been more clearly recited in respect of those claims (independent claims 22, 34 and 40) reciting use of piston phasing means in association with the cylinder members of the positive displacement means, as follows:

> piston phasing means integral with at least one of the cylinder members further comprising at least one egress port situated in said at least one cylinder member proximate at least one opposed end of said at least one cylinder member, said egress port together with the associated aperture forming a pair of apertures proximate the at least one opposed end of said at least one cylinder member, ~~and~~ said egress port operable to permit egress of at least some of the pressurized hydraulic fluid that is ingressing into the at least one cylinder member.

Likewise , the "piston phasing means" has been more clearly recited in respect of those claims (independent claims 28, 34, and 40) reciting use of piston phasing means in association with hydraulic cylinders, as follows:

> piston phasing means integral with at least one of the hydraulic cylinders comprising at least one egress port situated in said at least one hydraulic cylinder proximate at least one opposed end of said at least one hydraulic cylinder, said egress port together with the associated aperture forming a pair of apertures proximate the at least one opposed end of said at least one hydraulic cylinder, ~~and~~ said egress port operable to permit egress of at least some of the pressurized hydraulic fluid that is ingressing into the at least one hydraulic cylinder.

Support for the above amendments , in particular the provision that of the pair of apertures, one being an egress port, may be found *inter alia* in the drawings, at Fig. 5A (item 70, 71), Fig.5B (item 70,71), Fig. 6A, 6B (item 70, 71), Fig. 7 (items 73, 72 and 80), Fig. 8 (item 73, 72), Fig. 9 (items 80, 81, and 72, 73), Fig. 10 (item 71, 70 and 72, 73) and Fig. 11 (item 80, 81, and

Claims dependent from independent claims 22, 28, 34 and 40 have been similarly amended to properly refer to antecedent provided in such newly-amended independent claims.

Independent claims 22, 28, 34 and 40 have each further been amended to provide antecedent basis for the limitation "the pressurized hydraulic fluid".

In addition, claim 27 has been amended to overcome a grammatical correction noticed by the examiner, whereby "...which the pair of apertures are situated proximate..." to the following, namely: "... which the pair of apertures is situated proximate...".

Lastly, claims 25, 31, 33, 37, 39, 44 and 46 have each been amended to more fully indicate that the "area" being referred to its the cross-sectional area.

No new matter has been added to the claims.

CLAIM REJECTIONS - 35 USC § 112

Previous claims 22-27 and 31, 33, 37, 39, 44 and 46, rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, have now been amended to overcome the noted difficulties.

Specifically, independent claim 22 has been amended to recite "a pressurized hydraulic fluid" for the first use of the phrase in the claim, and "the pressurized hydraulic fluid" for all uses of the phrase thereafter, in order to provide the necessary antecedent. Claims 28, 34 and 40 have been similarly amended for consistency.

Claims 25, 31, 33, 37, 39, 44 and 46 have been amended to specify the limitation that the "area" being referred to is the cross-secnonal area.

As to remaining claims 23, 24 and 26, such presumably having been rejected in light of being dependent from a rejected independent claim (claim 22), in light of the amendments with respect to claim 22, it is respectfully submitted however, there now remains no basis on this ground for rejection

In view of the above comments and foregoing amendments, Examiner is respectfully requested to withdraw the rejection of claims 22-27 and 31, 33, 37, 39, 44 and 46 under 35 U.S.C. 112, second paragraph.

CLAIM REJECTIONS - 35 USC § 102

The Examiner's rejection of Claims 22, 28, 34 and 40 under 35 U.S.C. 102(b) in view of Mifsud is predicated on what , it is respectfully submitted, is a clear misinterpretation of what the Applicant in its application has defined (and now by way of further amendment to such claims, **now more clearly recited**) as comprising "piston phasing means".

Applicant accordingly respectfully traverses the Examiner's characterization of Mifsud and its relevance.

Specifically, with respect to independent claims 22 and 28, the Examiner alleges that Mifsud discloses "*a piston phasing means (50d, 50c, 77 and 75) integral with at least one cylinder member (B) and operable to permit egress of at least some of the pressurized fluid (via 50d and porting to 20 as well as 50c and porting to 21)*".

Firstly, while it is recognized that "double piston" power source 22 drives hydraulic cylinders 5 and 7, it is blatantly incorrect to characterize doubly-driven piston 305, having a first aperture 77 proximate one end of the cylinder member to permit egress/ingress of hydraulic fluid, and second aperture 77 proximate the opposite end of the associated cylinder member to permit respective ingress/egress of hydraulic fluid, further having associated valves 50d and 50c, as being "*piston phasing means*".

Rather, all that doubly-driven power source 22 of Mifsud (and in particular doubly-driven piston 305 thereof) is providing is a positive displacement function, and **not** "piston phasing" as now more clearly defined in the amended claims provided herewith.

Were it to be otherwise , every doubly-driven hydraulic piston which functions as a positive displacement valve for associated hydraulic cylinders would be said to have "piston phasing means". Such is clearly not the case, and the newly-added amendments to the claims herein now expressly clarify and recite necessary further elements which provide the "piston phasing means", including and in particular having , in the case of the embodiment of the present invention having piston phasing means on the cylinder members of the positive displacement valve (eg. claim 22, 28, and 40) , there is now expressly recited "at least one egress port situated in said at least one cylinder member proximate at least one opposed end of said at least one cylinder member, said egress port together with the associated aperture forming a pair of apertures proximate the at least one opposed end of said at least one cylinder member." Indeed, as expressly and correctly noted by the Examiner at the bottom of page 4 of his

Office Action of March 3, 2007, namely that "Mifsud is silent regarding a pair of apertures proximate at least one end of the at least one of the cylinder members"(underlining added).

Likewise, with respect to Claim 34 of the present application (ref. Office Action, top of page 4), the Examiner alleges that Mifsud discloses piston phasing means, this time however re-characterizing the "piston phasing means" as allegedly being , or provided by, what is disclosed in Mifsud as a "drain valve (24) (ref. Fig. 1 of Mifsud and Col 6, line 57-col. 7, Line 3) , which is further alleged by the Examiner to be "integral with at least one of the hydraulic cylinders(5,7)" of Mifsud.

Firstly, drain valve 24 is clearly not "integral with at least one of the hydraulic cylinders"-at best the drain valve 24 of Mifsud could be said to be "associated" with the hydraulic cylinders.

More importantly, however, the amendments now made to claim 34 clearly emphasize that an element of "piston phasing means" is provision of an egress port within at least one of the hydraulic cylinders in combination with a positive displacement valve, as follows:

> said positive displacement means ...each cylinder member having mutually opposed ends and an aperture proximate each of the opposite ends thereof so as to permit ingress and egress of the pressurized hydraulic fluid...; and
>
> piston phasing means integral with at least one of the hydraulic cylinders comprising at least one egress port situated in said at least one hydraulic cylinder proximate at least one opposed end of said at least one hydraulic cylinder, said egress port together with the associated aperture forming a pair of apertures proximate the at least one opposed end of said at least one hydraulic cylinder, ~~and~~ said egress port operable to permit egress of at least some of the pressurized hydraulic fluid that is ingressing into the at least one hydraulic cylinder.

Clearly, the provision of an additional egress port proximate at least one opposed end of the hydraulic cylinder in addition to the associated aperture proximate the at least one opposed end of the hydraulic cylinder (recited in claims 34 and 40) is a feature that is completely lacking in Mifsud (note Examiner's admission referred to above that Mifsud is completely silent on this feature).

Accordingly, in the case of the embodiment of the present invention having piston phasing means provided on the hydraulic cylinders (eg. claims 34 and 40), there is now expressly recited "at least one egress port situated in said at least one hydraulic cylinder proximate at least one opposed end of said at least one hydraulic cylinder, said egress port together with the associated aperture forming a pair of apertures proximate the at least one opposed end of said at least one hydraulic cylinder"-see below with respect to claim 34 and 40.] Again, as expressly and correctly noted by the Examiner at the bottom of

page 4 of his Office Action of March 3, 2007, namely that "Mifsud is silent regarding a pair of apertures proximate at least one end of the at least one of the [hydraulic] members"(underlining added).

Likewise, with respect to claim 40, such claim recites piston phasing means on both the positive displacement valve and the hydraulic cylinders.

Specifically, claim 40 as now amended expressly provides for :

> piston phasing means integral with at least one of the hydraulic cylinders comprising at least one egress port situated in said at least one hydraulic cylinder proximate at least one opposed end of said at least one hydraulic cylinder, said egress port together with the associated aperture forming a pair of apertures proximate the at least one opposed end of said at least one hydraulic cylinder, ... and
>
> piston phasing means integral with at least one of the cylinder members comprising at least one egress port situated in said at least one cylinder member proximate at least one opposed end of said at least one cylinder member, said egress port together with the associated aperture forming a pair of apertures proximate the at least one opposed end of said at least one cylinder member, .

For the reasons set out above with respect to claims 22, 28, and 40 (and with respect to claim 34 and 40) such "piston phasing means" comprising a pair of apertures is nowhere disclosed in Mifsud.

For the reasons set out above, the Examiner is respectfully requested to withdraw his objection to independent claims 22,28, 34, and 40 (and all claims dependent therefrom) base on 35 USC § 102 (b) in view of Mifsud.

CLAIM REJECTIONS - 35 USC § 103 (Obviousness)

Claims 23-25, 27, 29-31, 33, 35-37, 39, 41-44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mifsud in view of Gray (US Patent No. 5,110,251).

US 5,110,251 to Gray [as discussed in the "Background" of the present application and as shown in Fig. 2 (prior art) of the present application] teaches hydraulic cylinders 8, 10 having integral piston phasing means (66) comprising a pair of apertures 68,70 in at least one of the hydraulic cylinders (re. Figs. 4, 5, and 6).

As further correctly noted by the Examiner at page 5 of the Office Action, Gary (sic-Gray) teaches one (68) of the pair of apertures most proximate an end (34) of one of the hydraulic cylinders (10)

as having a cross-sectional area larger than that of another of the apertures (70, Col. 6, line 35), thereby enabling flow through the lower post as the pistons approach its extend position to promote leveling of the pistons(Col. 7, line 25).

However, for the reasons set out below with respect to each of the embodiments of the invention recited in various sets of claims, Mifsud neither alone or in combination with Gray in no way suggests or renders obvious the claimed invention, particularly in view of the amendments to the claims as hereinafter discussed.

re: allegations as to obviousness with respect to claims 22-27

Independent claim 22 (and dependent claims 23-27) of this application is directed to a positive displacement valve having piston phasing means, in the form of a pair of apertures proximate the at least one opposed end of said at least one cylinder member to permit egress of at least some of the pressurized hydraulic fluid that is ingressing into the at least one cylinder member.

The examiner's allegation (page 5) that it would have been obvious to one of ordinary skill to modify the reference of Mifsud with the teaching of Gray to provide paired porting of the cylinders **of the positive displacement valve** (ie so as to provide piston phasing of the paired positive displacement valve) has been duly noted.

However, Gray merely teaches providing piston phasing means on hydraulic lift cylinders. There is nothing in Gray to suggest providing piston phasing means on a positive displacement valve, which is not even disclosed in Gray.

Moreover, Mifsud, as explained at col. 6, lines 3-25, utilizes drain valve 24 (ie a further component), and in particular piston 301 thereof, to equalize pressure in hydraulic lift cylinder chambers 36b and 34b. Gray, on the other hand, as noted above, teaches providing piston phasing means on the hydraulic cylinders, for the purpose of permitting a lift cylinder to "catch up" with the other lift cylinder and self-level, where the two cylinders may have become out of alignment (synchronization) (ref. Col. 6, lines 30 col 7, line 36).There is thus nothing in Mifsud which would suggest placing "piston phasing means" on the positive displacement valve.

It is noted that by having a dual port arrangement on the positive displacement valve of the present invention does not allow "catch-up" of the two pistons **of the positive displacement valve**, as each piston is "operatively connected by longitudinal shaft means to each other so that movement of one

piston causes an equal movement of the other". Accordingly, there is nothing to suggest , from either Mifsud or Gray, the placing of piston phasing members on the positive displacement valve, to serve the purpose, as noted by the Examiner at page 5, "to minimize shock to, and smoother transition of, the positive displacement valve."

Accordingly, there is nothing whatsoever in Mifsud (whose purpose the valve 24 is to equalize pressure for the purposes of self-levelling) to replace such feature with piston phasing means **on the positive displacement valve,** particularly when such piston phasing means would not operate or accomplish the function of drain valve 24.

re: allegations as to obviousness of claims 28-33

Independent claim 28 (and dependent claims 29-33) of this application is directed to hydraulic platform lift having a positive displacement valve, and piston phasing means integral with the positive displacement valve.

The only difference between claims 28-33 and claims 22-27 discussed above is that claims 22-27 relate to a positive displacement valve having piston phasing means, while claims 28-33 recite a hydraulic platform lift having a positive displacement valve having piston phasing means thereon.

Accordingly, for the reasons set out in respect of claims 22-27 that it would not be obvious to modify Mifsud with the teachings of Gray, it likewise would not be obvious to provide a hydraulic platform lift incorporating a positive displacement valve having piston phasing means thereon.

re: allegations as to obviousness of claims 34-39

Independent claim 34 (and dependent claims 35-39) of this application is directed to hydraulic platform lift having a positive displacement valve, and further piston phasing means integral with one or both of the first and second hydraulic lifting cylinders.

It would not be obvious to add a positive displacement valve of Mifsud (item 22) to the hydraulic lift arrangement of Gray which incorporates piston phasing means on each of the hydraulic lift members, so as to ostensibly come up or produce the invention claimed in claims 34-39, for the reason, firstly, that the combination would clearly be unworkable, and it is not apparent, to a skilled person or otherwise, should the two references be combined, as to how to produce a workable resulting system, and secondly, the combination would not produce the (now) claimed invention.

Specifically, as may be seen from Gray, notably in Fig. 3 but also in Figs. 4 & 5 thereof, the hydraulic lift cylinders 8,10 are connected in series, and **only one** of the hydraulic cylinders 8, 10 , **namely cylinder 10**, is directly connected to a hydraulic source of pressure. Cylinder 8 receives its source of hydraulic fluid from cylinder 10.However, as noted from the positive displacement valve of Mifsud, and that of the present invention, as now recited in all claims of the present invention to a hydraulic lift circuit and as clearly shown in Figs. 4A,4B, 5A, 5B, 7, 9, & 11 of the present invention, it is necessary to provide a supply of hydraulic fluid from each of the cylinder members of the positive displacement means **to each of the hydraulic cylinders**. In other words, each cylinder of each of the positive displacement valve need connect directly to a corresponding hydraulic cylinder, and not in series. It is thus not apparent how a positive displacement valve of Mifsud could be combined with the hydraulic lift circuit of Gray incorporating piston phasing means, so as to come up with the present invention claimed in claims 34-39.

Moreover, there is now clear wording in each of claims 34-39 (and also in Claims 40-46 and claims 28-33) which clearly recite that the supply of hydraulic fluid from the positive displacement valve **is to each of the hydraulic cylinders,** which claims as amended herein particularly now recite as follows:

> said positive displacement means ... the cylinder members [thereof] arranged in juxtaposed relation to each other, each cylinder member having mutually opposed ends and an aperture proximate each of the opposite ends thereof so as to permit ingress and egress of the pressurized hydraulic fluid **to said respective first and second hydraulic cylinders**

Accordingly, addition of the positive displacement valve of Mifsud to the system of Gray would not produce the claimed invention, in that Claim 34 (and claims 35-39 dependent therefrom), and also claim 40 (and claims 41-46 dependent therefrom) all clearly recite that the positive displacement valve supply pressure to each of the hydraulic cylinders-such feature not being able to be incorporated in Gray which only provides, to carry out the leveling feature, that the hydraulic cylinders be connected **in series**, and only one hydraulic cylinder be directly supplied with pressure.

Moreover, the converse is also true, namely it would not be obvious to add the piston phasing feature of Gray to the hydraulic circuit of Mifsud having a positive displacement valve (22), so as to arrive at the invention recited in Claims 34-40.

Specifically, there is nothing in either Gray or Mifsud to suggest that substituting the drain (24) of Mifsud, with piston phasing means integral with the hydraulic cylinders of Gray, so as to realize the

advantages of the present invention.

In particular, as noted above, the purpose of drain (24) of Mifsud is to equalize pressure in hydraulic lift cylinder chambers 36b and 34b (ref. at col. 6, lines 3-25). There is nothing in Mifsud or Gray to suggest that replacing/substituting drain (24) with piston phasing means of Gray (which are for the purpose of self-leveling and alignment of out-of-synch piston members within such hydraulic cylinders) would produce the same intended result of Mifsud or Gray. Indeed, the purpose of the drain (24) of Mifsud, and the piston phasing means of Gray, is entirely different.

Accordingly, there is nothing in either Mifsud or Gray which points to or suggests the incorporation of piston phasing means on the hydraulic cylinders of Mifsud and to dispense thereby dispense with the drain (24) of Mifsud.

Alternatively, if the drain (24) of Mifsud was left in the hydraulic lift circuit, and piston phasing means simply added to the hydraulic cylinders (7,5) of Mifsud, there is nothing to suggest that such combination would in fact be workable. Certainly, it would operate differently, due to having a further drain (24) for purposes of equalization of pressure (which function would be counteracted by the piston phasing means at the extremety of the piston stroke), and would thus operate in a different manner than the positive displacement valve and piston phasing means on the hydraulic cylinders, as recited in claims 34-39, and 40-47. Indeed, due to the provision of numerous valves 50b, 50c, 60a, 60b in Mifsud, it is not apparent that such combination would be workable or how to implement such a combination.

Accordingly, for the reasons set out above, and contrary to the suggestion of the examiner at page 5, it would **not** be obvious to a person of skill in the art to modify Mifsud with the teaching of Gray to provide piston phasing for the hydraulic cylinders, nor , as pointed out above, to modify Gray to provide a positive displacement valve, as such combination would not produce the invention recited in Claims 34-39 (or for that matter claims 40-46) due to the need of the positive displacement valve to supply pressure to both the hydraulic cylinders.

re: allegations as to obviousness with respect to claims 40-46

Independent claim 40 (and dependent claims 41-46) of this application is directed to hydraulic platform lift having a positive displacement valve, and further, in combination: (i) piston phasing means integral with one or both of the first and second hydraulic lifting cylinders, **and** (ii) piston phasing means integral with one or both of the cylinder members of the positive displacement valve.

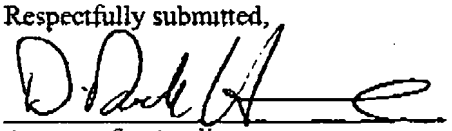
For the reasons set out above that it would not be obvious to individually provide each of elements (i) or (ii) of the invention claimed in independent claim 40 , it is respectfully submitted that the combination of elements (i) and (ii) as recited in independent claim 40 and each of dependent claims 41-46 would not be obvious.

Summary

In view of the above, favorable reconsideration of the claims of this application, in light of the comments above and the amendments to the claims, with a view to withdrawing objections based on Mifsud and Gray, is earnestly solicited, this Response being filed one month prior to the deadline for filing the response of July 27, 2007.

Applicants' undersigned attorney D. Doak Horne, Reg. No. 33,105 may be reached at (403) 298-1994 in the event the examiner should have any questions in respect of the above amendments. All correspondence should continue to be directed to the address given below.

Respectfully submitted,



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